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ABSTRACT

An amendment to the Job Training Partnership Act (JTPA) mandated an assessment of the basic skills of all Summer Youth Employment and Training (SYET) Program enrollees. Many agencies in California used the Employability Competency System Appraisal Test to assess 1987 SYET participants' basic reading and math skills. Between June and October 1987, the test was administered to 10,003 SYET enrollees in California. Slightly less than half of those taking the test were female, with Hispanics accounting for 43.9 percent, Blacks for 22.9 percent, Asians for 15.7 percent, and Whites for 10.8 percent. English was the native language of 59.6 percent of those tested, with 22.6 percent of the youths listing Spanish as their native language. Thirty-one percent had completed high school, and 49.9 percent had completed the 9th or 10th grade. Nearly 11 percent of the SYET enrollees needed both math and reading remediation, 19.4 percent needed only math remediation, 2.9 percent needed only reading remediation. It was determined that an additional 32.4 percent would benefit from some remediation (that is, they functioned at or above a seventh-grade level but below a high school entry level), leaving 34.4 percent who functioned at or above the high school entry level. (Eighteen figures are provided.) Appendixes include a description of the components of the Employability Competency System and lists of counties, agencies, and/or Service Delivery Areas ordering and using the test in 1987. (MN)

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Summer Youth Employment and Training Program

California Statewide Report

On the Appraisal of Basic Skills

Prepared for the

State Department of Education
Specialized Programs Branch
Youth, Adult and Alternative Educational Services Division

1987

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In Coordination with

Employment Development Department
Job Training Partnership Office

and

Chancellor's Office of the California Community Colleges
Employment Training Office

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by

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December 1987

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SUMMER YOUTH EMPLOYMENT AND TRAINING PROGRAM STATEWIDE REPORT ON THE APPRAISAL OF BASIC SKILLS

Prior to 1987, Summer Youth Employment and Training Programs (SYET) were responsible for finding jobs for young people. In-school and out-of-school youth between the ages of 14 and 21 who were economically disadvantaged were eligible to participate in the program. In February 1987, agencies working with Job Training Partnership Act (JTPA) contracts were advised that Public Law (PL) 99-496 amended portions of the Job Training Partnership Act (JTPA) including provisions related to the Title II-B Summer Youth Employment and Training (SYET) Program. This amendment required all Service Delivery Areas (SDAs) to assess the basic skills of all SYET youth for the 1987 Summer Program.

This shift in policy reflects research findings which show that young people, in particular economically disadvantaged young people, lose ground academically during summer vacation. Another reason this amendment was passed is the recognition of the importance of basic skills in a person's ability to get and keep a job. In order to enhance a young person's long term chances for successful employment, the program is being asked to intervene and determine which young people would profit from basic skills remediation, and provide educational opportunities in conjunction with job experiences.

Because of the new amendment, an integral component of the initial appraisal of JTPA eligible SYET participants is an assessment of the participant's basic reading and math skills. On the basis of test results, participants who lack basic literacy or mathematic skills can be referred for appropriate remediation.

During the SYET 1987 Program in California, many agencies used the Employability Competency System (ECS) Appraisal Test to meet this new requirement. The ECS Appraisal Test was designed to provide an assessment of the participant's level of skill development in the areas of basic reading comprehension and basic math computation in an employability context. Both portions of the Appraisal were developed by the Comprehensive Adult Student Assessment System (CASAS) through a contract administered by the California State Department of Education. The two tests together have been designated as the ECS Appraisal Test. Both were developed to be included in the initial appraisal component of the ECS. The ECS Appraisal Test is only one component of a complete employability competency system that links employment competencies to assessment and instructional materials. For a description of the entire system, see Appendix A.

The following report describes the ECS Appraisal Test. It discusses the demographics of the 1987 SYET population including the gender, ethnicity, native language, age, and educational characteristics. Participant test performance on the Reading and Math Appraisal tests is also discussed.

EMPLOYABILITY COMPETENCY SYSTEM (ECS) BASIC SKILLS APPRAISAL TEST

The **ECS Reading Test** is designed to assess a participant's ability to apply basic reading skills in a functional context related to training and employment. It consists of twenty multiple choice items.

The **ECS Math Test** is designed to assess a participant's ability to perform basic math computations and to apply basic math skills in a functional context related to training and employment. This test also consists of twenty items.

The ECS Appraisal Test was developed from the CASAS Item Bank. This bank of over 4,000 items has been under continual development and refinement since 1980. The application of Item Response Theory (IRT) to these 4,000 items assigns to each item a reliable index of standardized difficulty. The test forms developed from these items accurately measure basic skills in a functional context.

PSYCHOMETRIC PROPERTIES

The psychometric properties of the ECS Appraisal Test forms are briefly summarized below and show the instrumentation used in the ECS Appraisal Test to be internally consistent and accurate with the pyschometric model used.

Reliability Computation of Kuder-Richardson (KR)-20 indices for ECS Reading and Math test items indicated that in the case of the ECS Reading Test, the KR-20 was .77. The corresponding figure for the ECS Math Test was .85.

Item-Total Correlations Point bi-serial correlation coefficients were obtained for the ECS Reading and Math Tests. This correlation should generally fall between .40 and .60 for each of the individual test items. In the case of the ECS Reading Test, the coefficients ranged from .17 to .54, with a mean value of .44. Similar coefficients for the ECS Math Test ranged from .41 to .59 with an average P-Value of .51.

SCOPE OF REPORT

Data for this report was gathered from June 1987 through October 1987 for 10,003 cases. All data reported was taken from the ECS Appraisal answer sheets which were filled out by the participants at the time the test was administered. The counties and programs represented in this data base are listed in Appendix B. All agencies which used the ECS Appraisal were encouraged to send back the scannable portion of the answer sheet. Appendix C contains a list of all the SDA's that had agencies who used the ECS Appraisal during their SYET Program.

DEMOGRAPHIC DATA

Gender. The gender of the participants included in this sample is approximately 48.5% Female and 51.5% Male. **(See Figure 1)**

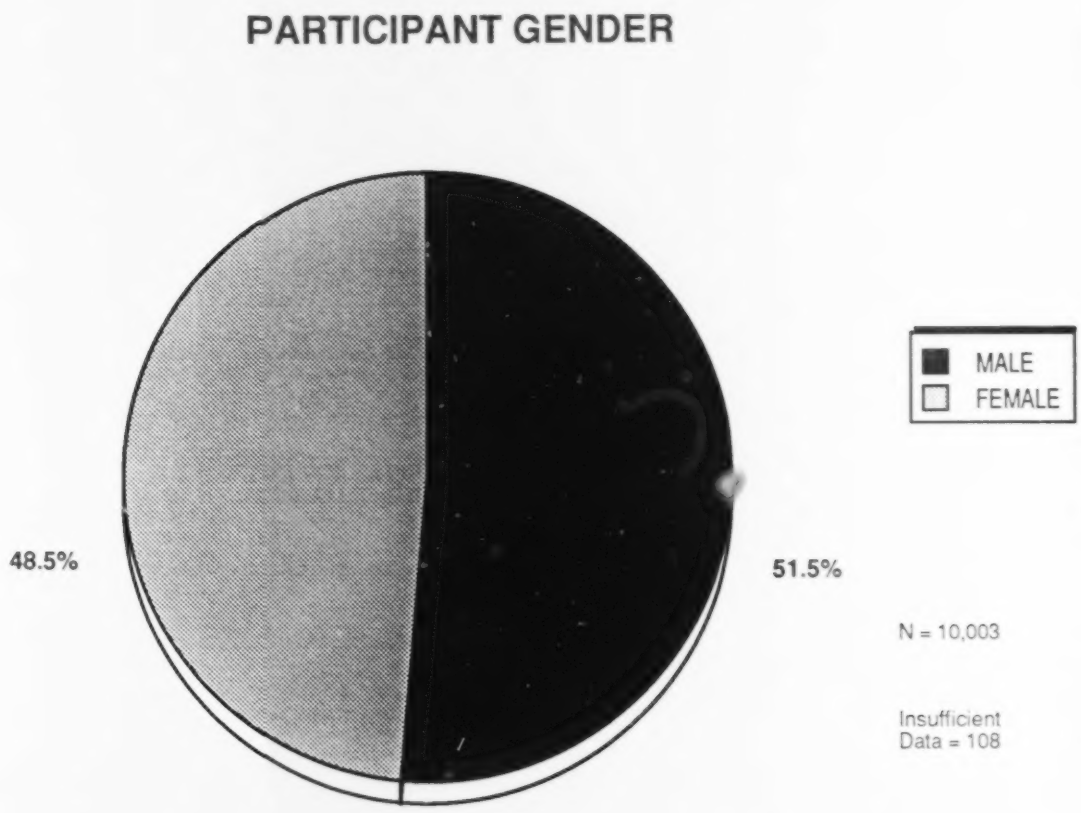

Figure 1

Age. Approximately 15% of the participant sample is under the age of 15. More than one-half of the participants (65%), are between the ages of 15 and 17, while approximately 19% are between the ages of 18 and 21. **(See Figure 2)**

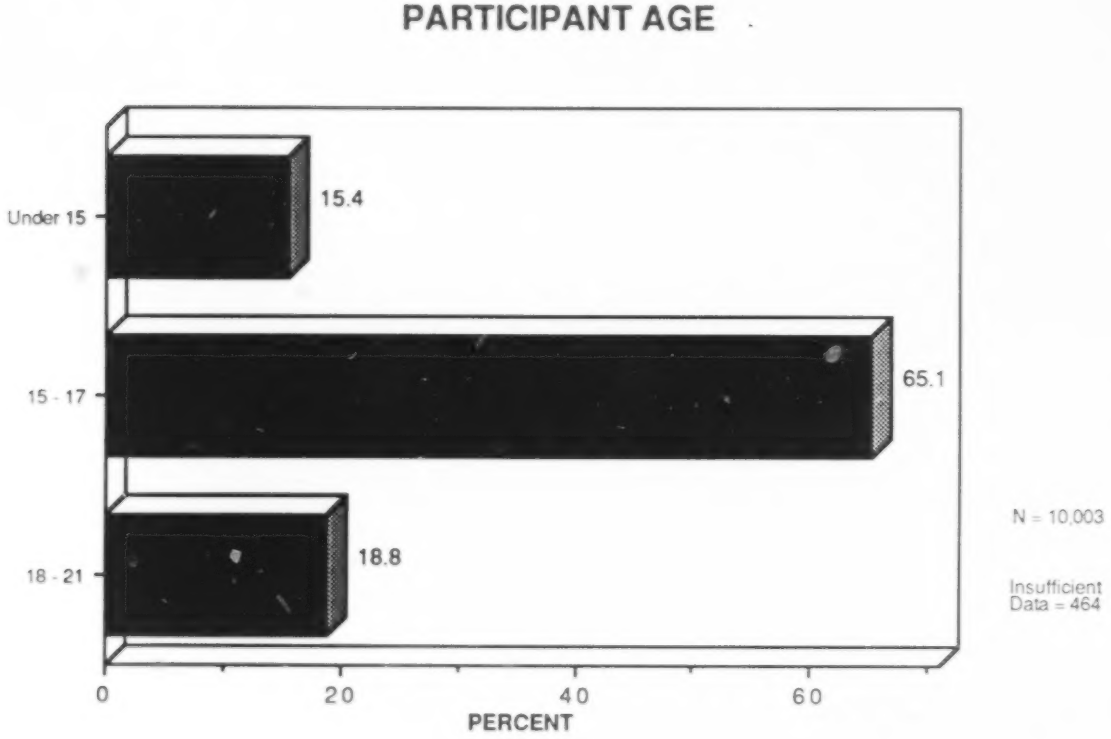

Figure 2

Ethnicity. Approximately 10% of the participants in this sample are Caucasian, 44% are Hispanic and 23% are Black. These three groups comprise approximately 77% of the participant sample. The remaining 23% are distributed among Native American, Asian, Indo-Chinese, Filipino, Pacific Islander, and Other. **(See Figure 3)**

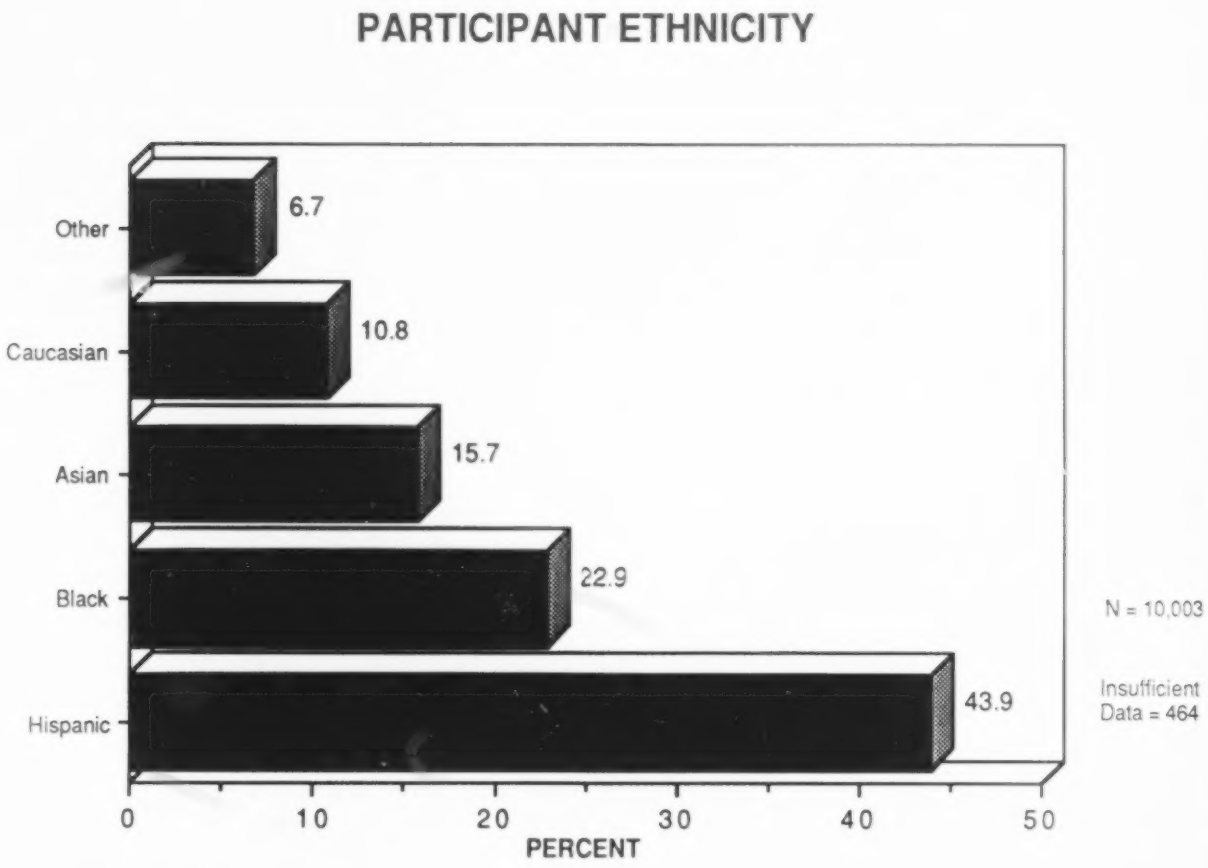

Figure 3

Native Language. English was identified as the native language by approximately 60% of the participants and Spanish by 23%. Thirteen percent identified their native language as Vietnamese, Laotion or Cambodian. The remaining 4% were Korean, Chinese, Japanese, Tagalog, and Other. **(See Figure 4)**

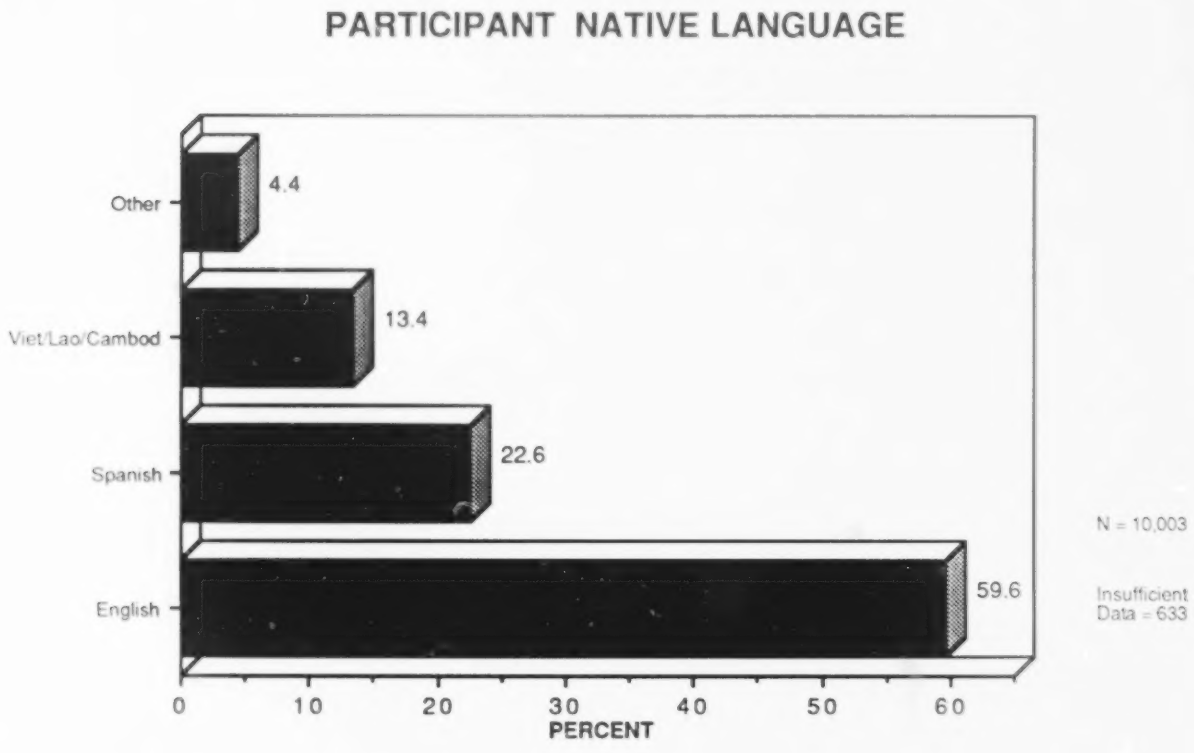

Figure 4

Education. Approximately 16% of the sample have completed seven or eight years of education. Fifty percent have a minimum of 9-10 years of education. Thirty-one percent reported completing 11 or 12 years of education. The mean or average years of education for all participants is approximately 9.9. **(See Figure 5)** Approximately 17% report having a high school diploma, a General Education Development (GED) certificate, or have passed the California High School Proficiency Exam (CHSPE; the legal equivalent of a high school diploma in California). Approximately 81% report not having a degree. **(See Figure 6)**

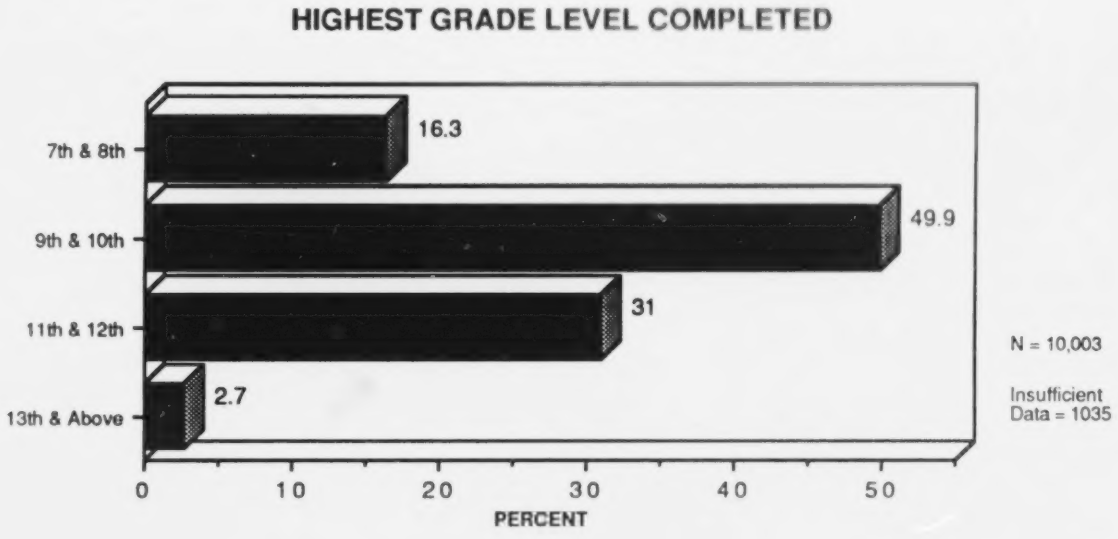

Figure 5

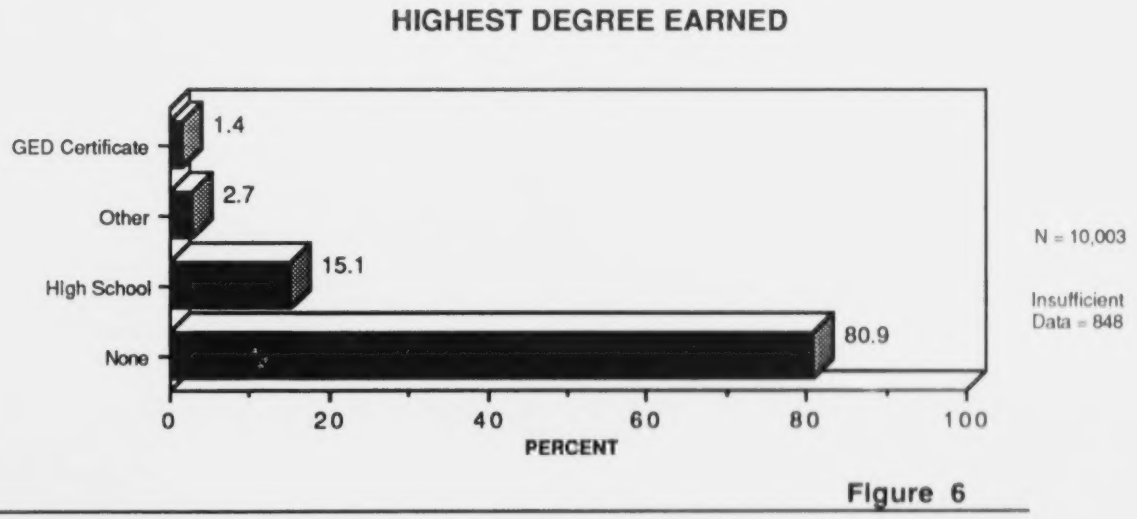

Figure 6

CASAS SCALE SCORE INTERPRETATION

The test results reported in the following sections are reported on the CASAS scale. Functional levels of basic skills have been identified based on five years of statewide achievement data for students enrolled in Basic Education programs in California. The following descriptions of the levels will assist in the interpretation of the test results.

BELOW 200 Participants functioning **below 200** have difficulty with basic literacy and computational skills necessary to function in employment and in the community. These participants have difficulty providing basic personal identification in written form (e.g. job applications), are not able to compute wages and deductions on paychecks, and cannot follow simple basic written directions and safety procedures.

200 - 214 Participants functioning **between 200 and 214** have low literacy skills and have difficulty pursuing other than entry level programs requiring minimal literacy skills. They can fill out simple job application forms and demonstrate basic computations only. These participants are functioning below a 7th grade level.

215 - 224 Participants functioning **between 215 and 224** are functioning above a basic literacy level, and are able to handle basic literacy tasks and basic computational skills in a functional setting related to employment. They have difficulty following more complex sets of directions and are functioning below a high school level.

225 AND ABOVE Participants functioning **at or above 225** can function at a high school entry level in basic reading and math and if they do not have a high school diploma can profit from instruction at the high school level. They can usually perform work that involves following oral and written directions in familiar and some unfamiliar situations. Those participants 18 years of age and above can profit from instruction in General Educational Development (GED) preparation and, in a short time, have a high probability of passing the GED test.

TEST SCORE PERFORMANCE DATA

As discussed earlier, the total sampled for this report was 10,003. On the reading test, fifty-seven percent of the sample achieved a scale score of 225 or above, while approximately 1.4% achieved less than a 200 scale score. Almost 86% achieved higher than a 215 scale score. The mean or average score was 225.15, with a standard deviation of 11.22. Scores were more evenly dispersed for the Math Test compared to the Reading Test. Approximately 41% achieved above a 225 scale score, 29% scored between 215 and 224, 24% scored between 200 and 214, while 6% scored less than 200. The average score on the Math test was 223.01, with a standard deviation of 14.02. **(See Figure 7)**

ECS READING AND MATH TEST SCORE PERFORMANCE

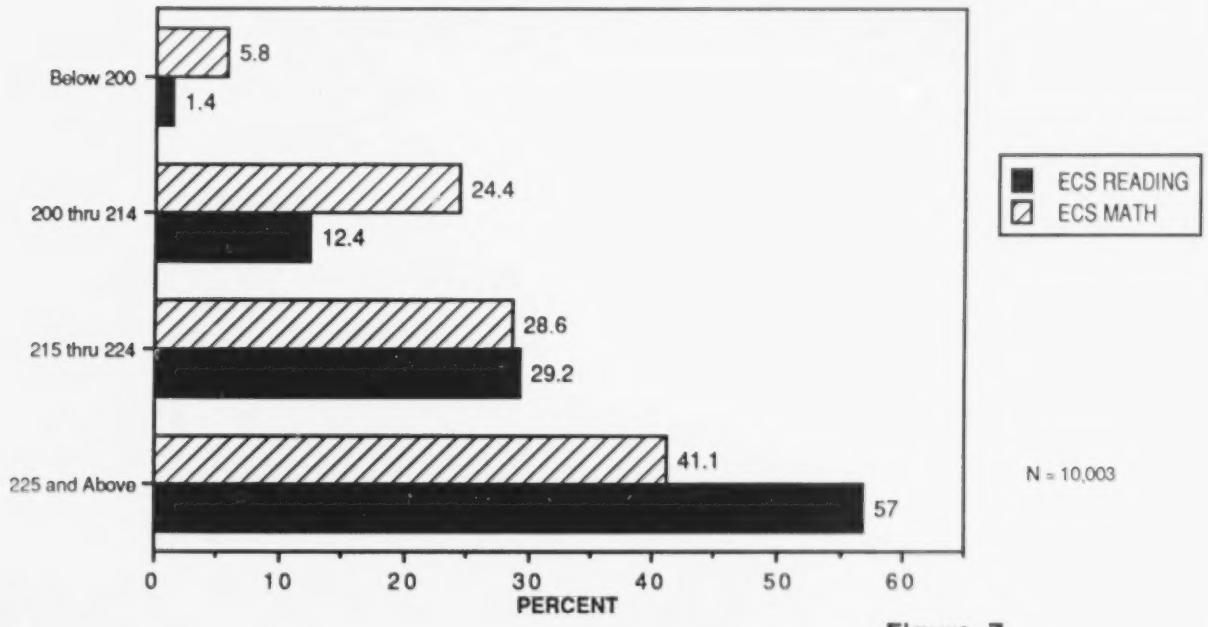

Figure 7

Math and Reading. **Figure 8** shows the crosstabulation of reading and math scores and identifies the percent of students most in need of remediation and the area of remediation needed. For example, of those participants who scored 225 or above in Math, 84% scored above 225 in Reading. By contrast, for those participants scoring 225 or above in Reading, only 60% scored at or above 225 in Math. Of those participants who scored above 225 in Math, no one scored less than 200 in Reading, 1.2% scored between 200 and 214, 15% scored between 215 and 224, and 84% scored above 225. Of those participants scoring between 215 and 224 on the Math test, less than .1% scored less than 200 on the Reading test, 8.4% scored between 200 and 214, 36.5% scored between 215 and 224, while 55% scored at or above 225 in Reading.

SCORE GROUP ESTIMATES BY READING AND MATH TEST SCORE

ECS MATH SCORES

ECS READING SCORE	LESS THAN 200	200 THRU 214	215 THRU 224	225 AND ABOVE	ROW TOTAL
LESS THAN 200	89 61.4% 15.3% .9%	52 35.9% 2.1% .5%	4 2.8% .1% .0%		145 1.4%
200 THRU 214	287 23.2% 49.4% 2.9%	659 53.3% 27.0% 6.6%	240 19.4% 8.4% 2.4%	50 4.0% 1.2% .5%	1236 12.4%
215 THRU 224	171 5.9% 29.4% 1.7%	1086 37.2% 44.4% 10.9%	1045 35.8% 36.5% 10.4%	616 21.1% 15.0% 6.2%	2918 29.2%
225 AND ABOVE	34 .6% 5.9% .3%	648 11.4% 26.5% 6.5%	1576 27.6% 55.0% 15.8%	3446 60.4% 83.8% 34.4%	5704 57.0%
Column Total Column %	581 5.8%	2445 24.4%	2865 28.6%	4112 41.1%	10,003 100.0%

Number
Row %
Column %
Total %

In need of both math and reading remediation (10.9%)
Functioning below a 7th grade level

Only in need of math remediation (19.4%)

Only in need of reading remediation (2.9%)

Would benefit from math and/or reading instruction (32.4%)

Functioning at or above a High School entry level (34.4%)

Figure 8

Gender. Analyses of test score performance by participant gender are presented in **Figure 9** for the ECS Reading and Math Tests, respectively. Differences in performance between males and females can be noted with respect to scores on the Reading Test. A somewhat larger percentage of males scored below a 215 scale score (17%) than did females (10%). Sixty-four percent of the females in the sample scored above 225 compared to 51% of the males. Little difference existed between males and females relative to the percent of participants falling in the various scale score categories for Math.

READING AND MATH TEST SCORES BY PARTICIPANT GENDER

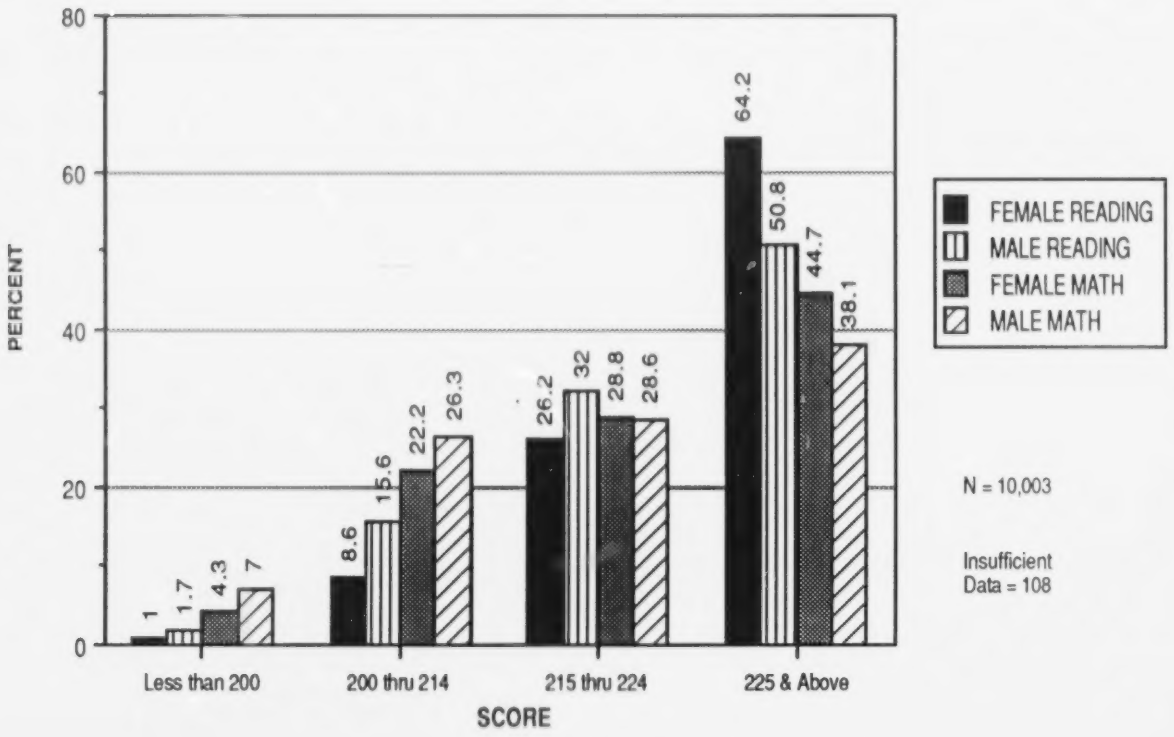

Figure 9

Age. Reading and Math achievement levels were positively related to age. Sixty-one percent of the eighteen to twenty-one year olds scored 225 and above in Reading as compared to 48 % of the fourteen year olds. (**See Figure 10**) As noted in **Figure 11** approximately 45% of the eighteen to twenty-one year olds scored 225 and above in the Math test as compared to 34% of the under fifteen age group.

READING SCORE BY PARTICIPANT AGE

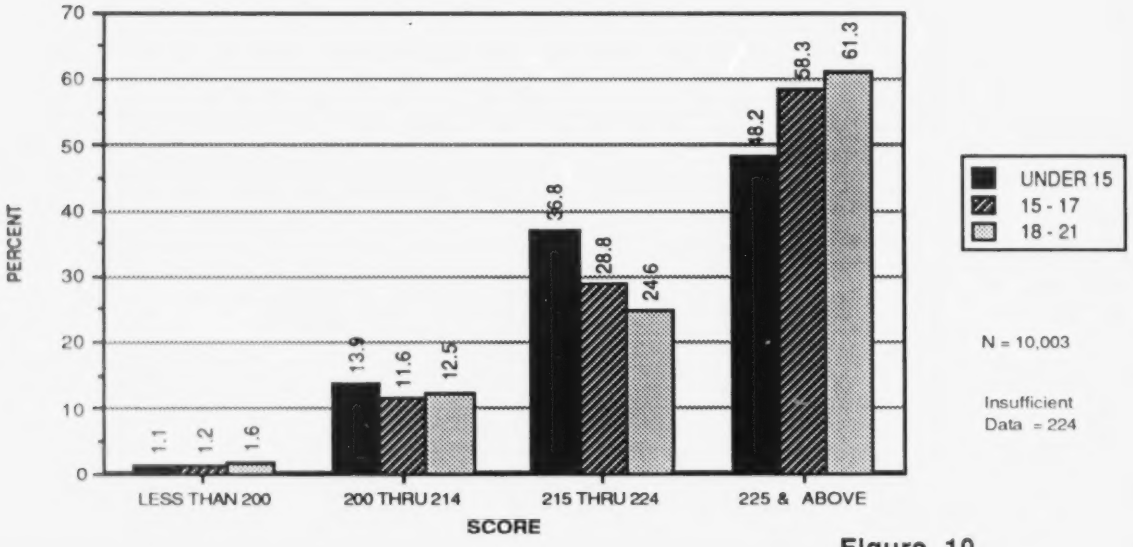

Figure 10

MATH SCORE BY PARTICIPANT AGE

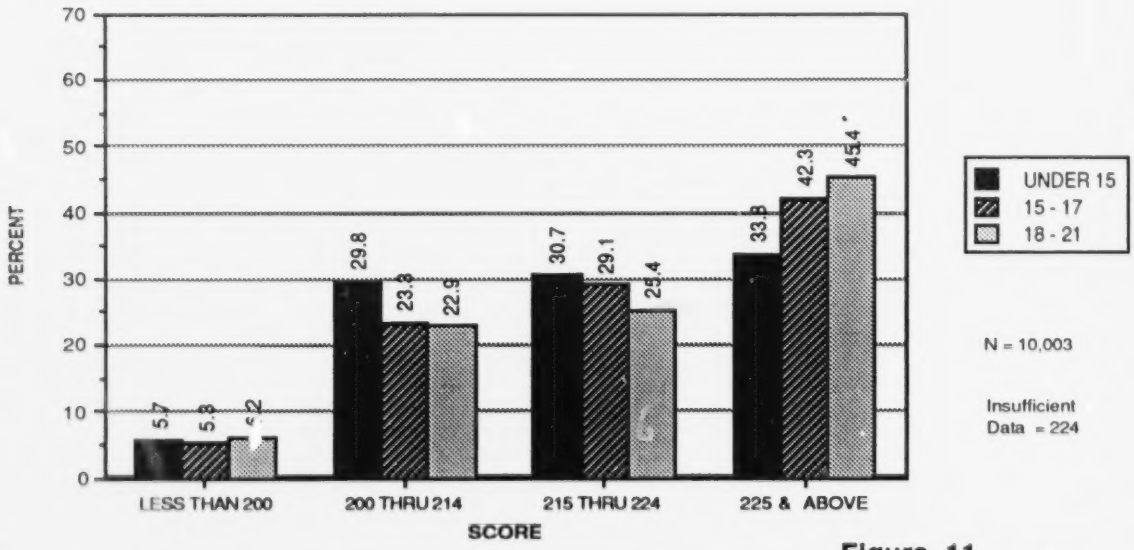

Figure 11

Reading Score by Highe`` Grade Completed. Participant-reported years of education was positively related to achievement levels on the ECS Reading and Math tests. As noted in **Figure 12**, among those participants who completed eight or fewer years of education, approximately 40% achieved scale scores or 225 and above on the Reading Test. The data indicate that participants completing nine to ten years of education comprise approximately one-half of the distribution. Among these participants, 58% scored 225 or above, and 12% scored below a 215 scale score. Among those participants who indicated completion of the 11th or 12th grade (31% of the distribution), 67% scored above a 225 scale score, while approximately 10% scored below 215.

READING SCORE BY HIGHEST GRADE COMPLETED

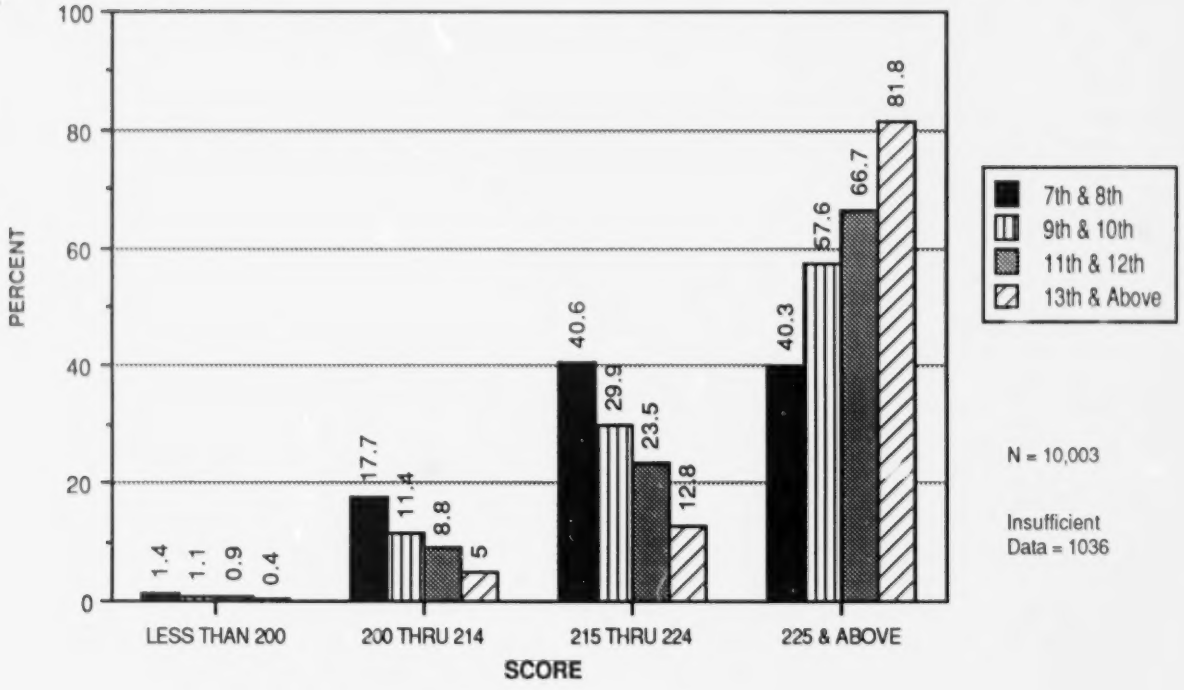

Figure 12

Math Score by Highest Grade Completed. Among those participants who completed fewer than 9 years of education, only 27% scored above 225, while 43% achieved below a 215 scale score. Among those participants completing from nine to ten years of education, 43% scored at or above a 225 scale score, while approximately 28% achieved below a 215 scale score. As with Reading Test scores, completion of the 12th grade had a strong effect on the distribution of scores. Among those participants who reported completing the 13th grade, 71% attained a scale score of 225 and above, while the percent of participants scoring below 215 dropped to approximately 10%. **(See Figure 13)**

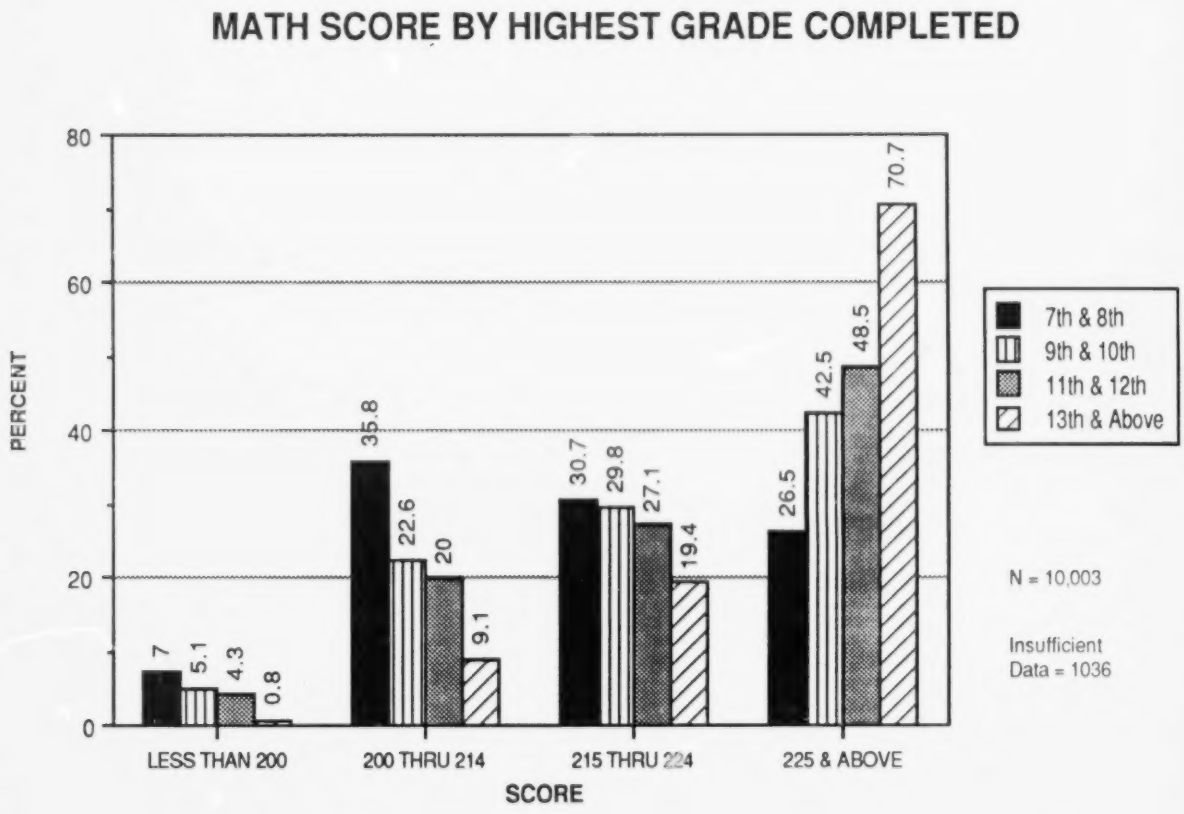

Figure 13

Reading Score By Highest Degree Earned. Among those participants who had a high school diploma, 69% scored at 225 or above on the Reading Test, 21% scored between 215 and 224, while the remaining 10% scored below 215. Among those participants without an educational degree, the percent achieving above a 225 scale score dropped to 56% on the Reading Test, and the percent of participants scoring below 215 increased to approximately 13%. **(See Figure 14)**

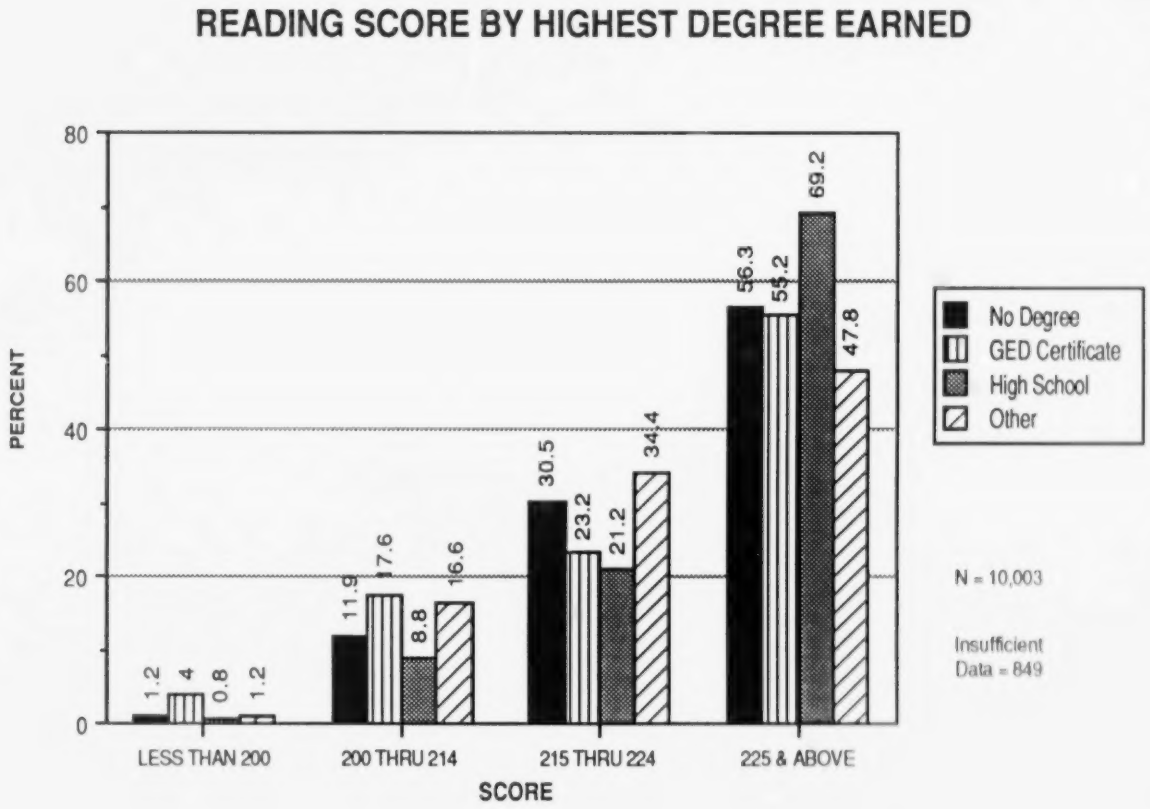

Figure 14

Math Score By Highest Degree Earned. On the ECS Math Test, among those persons with a high school diploma, approximately 53% scored above a 225 scale score, 25% scored between 215 and 224, 19% scored between 200 and 214, while 3% scored less than 200. Among those participants lacking formal high school completion, only 40% scored 225 and above, and 30% scored below 215. **(See Figure 15)**

MATH SCORE BY HIGHEST DEGREE EARNED

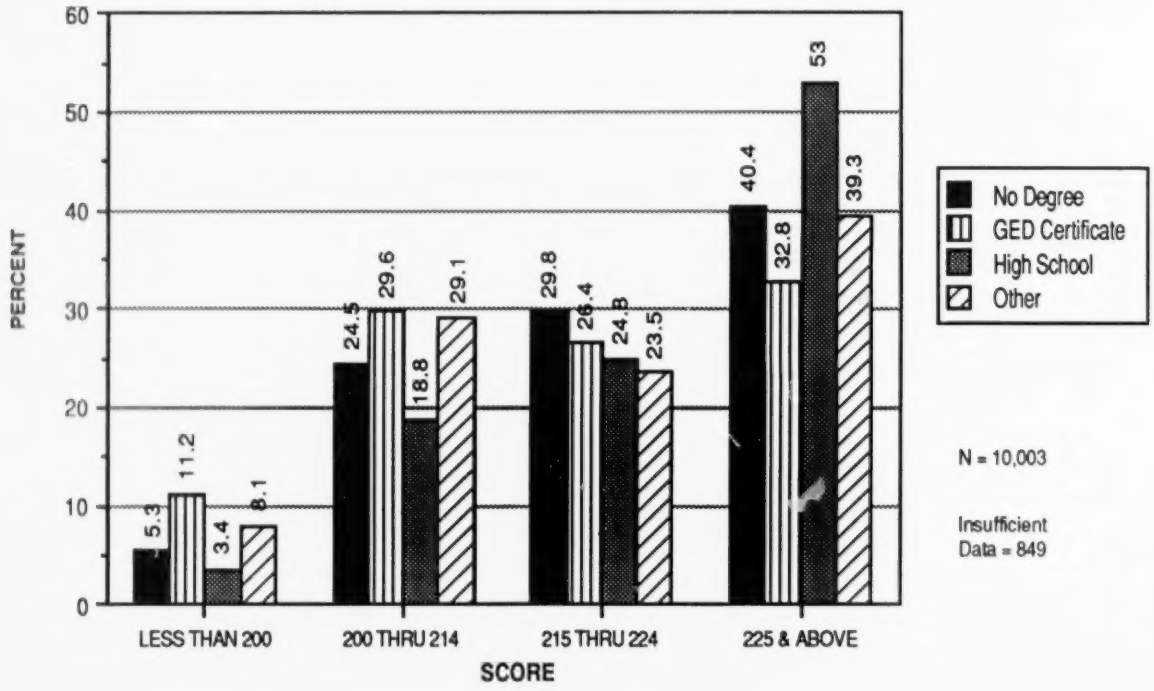

Figure 15

Ethnicity. Figures 16 and 17 present ECS Appraisal Reading and Math Test scores with participant ethnic background. As indicated in **Figure 16**, 58% percent of the Caucasians had scores of 225 and above on the ECS Reading Test as compared to 61% of the Hispanics, and 56% of the Blacks. Little difference also existed between these three groups in the percent of respondents scoring below a 200 scale score. On the ECS Math Test, 39% of the Caucasians achieved scale scores of 225 and above, compared to 44% of the Hispanics and 29% of the Blacks. **(See Figure 17)** Nine percent of the Caucasians achieved below a 200 scale score, compared to 4% of the Hispanics, and 8% of the Blacks.

READING SCORE BY PARTICIPANT ETHNICITY

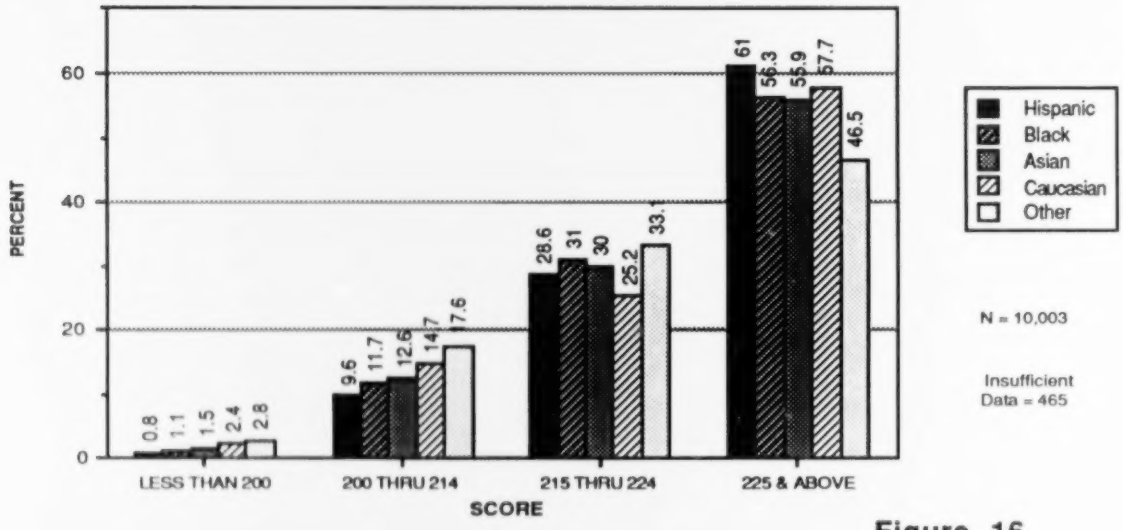

Figure 16

MATH SCORE BY PARTICIPANT ETHNICITY

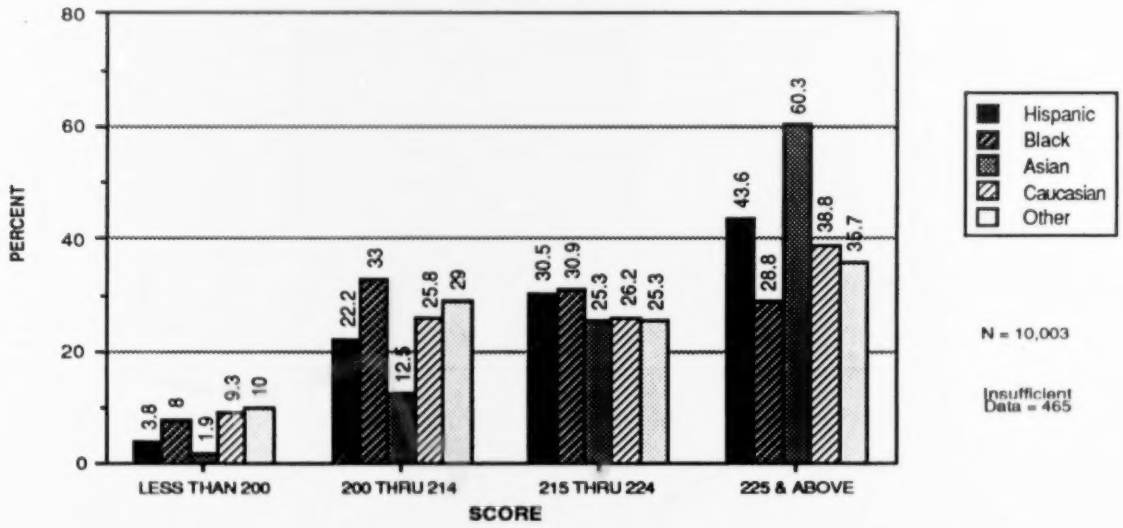

Figure 17

APPENDIX A

The Employability Competency System

The 1982 Job Training Partnership ACT (JTPA), Section 106, (b) (2) addressed the need to include the attainment of pre-employment competencies recognized by the local Private Industry Councils (PICs) as one option for youth participants to achieve a positive termination from a program. In response to this, PIC's across the nation have established a variety of processes to begin identifying relevant employability competencies, appropriate curriculum plus valid and reliable assessment. The task of developing, implementing and evaluating an employability competency system that meets the identified standards of effectiveness and relevancy is time consuming and requires the expertise of curriculum, training, and assessment specialists.

The California State Job Training Coordinating Council identified this as a statewide priority need in 1985-86 and the California State Department of Education, in coordination with the JTPO, contracted with CASAS (Comprehensive Adult Student Assessment System) to begin developing a comprehensive Employability Competency System (ECS) to assist JTPA programs throughout the state in implementing comprehensive, competency-based programs. In order to insure that the competencies included in the ECS reflected a statewide consensus of the PIC approved competencies, a work maturity and pre-employment competency survey of all Private Industry Councils in California was conducted by CASAS in the Fall of 1986 and the Spring of 1987. The competencies identified by the majority of PIC's as high priority and essential to be included in a competency system, form the basis of the Employability Competency System. The following components of the system, including assessment, are linked to the competencies identified in the statewide competency survey of PIC approved pre-employment/work maturity competencies:

Employability Competency System Appraisal for initial identification of basic **reading** and **math** functional skill levels.

Pre-employment Survey Achievement Tests :

** at three levels (A, B, and C) for monitoring progress in **reading** ,
** at two levels (A and B) for monitoring progress in **math**,
** at three levels (A, B, and C) for monitoring progress in **listening** comprehension.

Pre-employment Certification Tests for two levels (B and C) in **reading** and **math** for determining level or program completion.

ECS Assessment Checklist for Educational/Employment Development Plans (E/EDPs). (being field tested)

Pre-employment and Work Maturity Performance Checklists which include: Interview Checklist, Work Maturity Skills Checklist, Job Application Checklist, Resume Checklist, Cover Letter Checklist, Job Search Checklist, and Job Experience/Training Checklist. (being field tested)

Pre-employment Curriculum Index linked to the statewide PIC approved competencies and a model curriculum which identifies the basic skills needed to demonstrate pre-employment and work maturity competencies across a continuum of program levels. (under development)

APPENDIX B

The following counties, agencies and/or Service Delivery Areas (SDA's) returned ECS Appraisal answer sheets and are included in the data base used for this report. See Figure 18 for the SDA participation percentages.

Alhambra
City of Compton - Manpower Department
El Monte Mid-Valley Manpower Consortium
Fresno County
Garden Grove JTPA
Golden Sierra Job Training Agency
Imperial County
Los Angeles County
Merced County
Muroc Joint UHS
Oceanside
Ontario Emporium Training Agency
Riverside County JTPD
Santa Barbara County
Santa Ana - County of Orange CSA/Summer Youth Program
San Diego RETC Program
Stockton Private Industry Council
Torrance - Switzer Center - First Step Program
Ventura County Office of Education
West Covina
Westminster

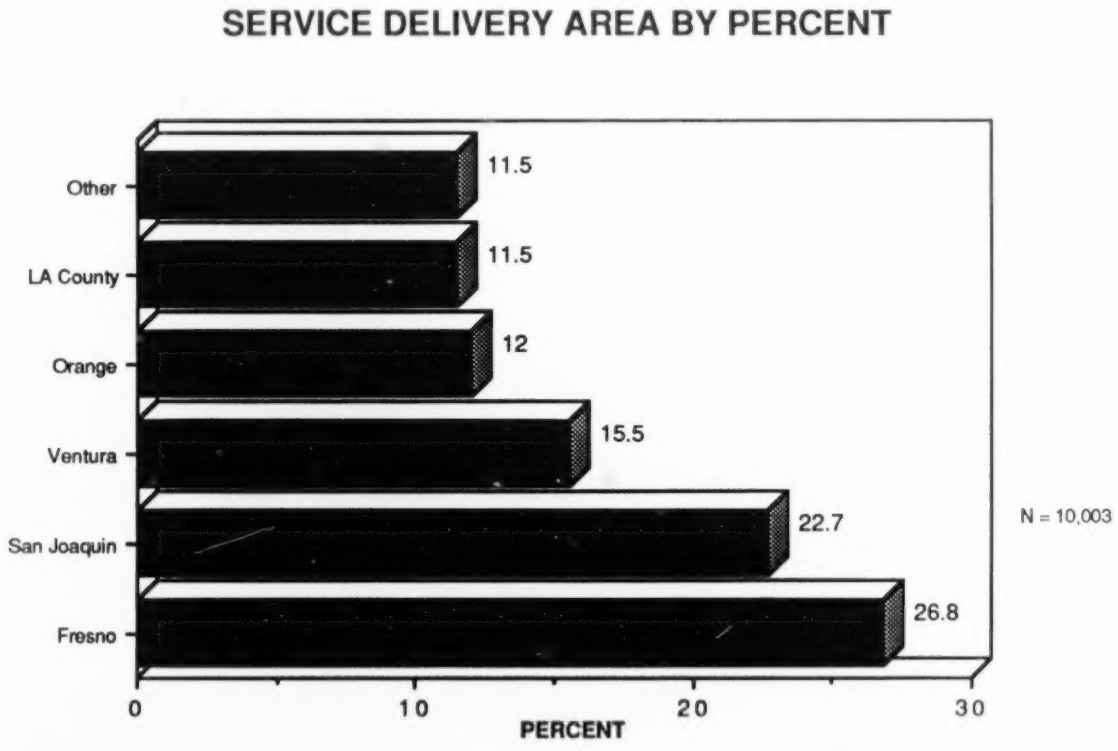

Figure 18

APPENDIX C

The following Service Deliver Areas (SDAs) had agencies that ordered and used the ECS Appraisal Program Tests during 1987:

Alameda County Training & Education Board
Butte County
Carson, Lomita, Torrance Consortium
Contra Costa County
Foothill Emporium & Training Consortium
Fresno City/County Consortium
Golden Sierra Consortium
Kern/Inyo/Mono Consortium
Long Beach City
Los Angeles County
Marin County
Merced County
Monterey County
Mother Lode Consortium
Napa County
North Santa Clara Valley Job Training Consortium (NOVA)
Oakland City
Orange County Consortium
Richmond City
Riverside County
Sacramento City/County Consortium
San Benito County
San Bernardino City
San Bernardino County
San Diego Regional Education & Training Consortium
San Francisco City & County
San Joaquin County
San Luis Obispo County
San Mateo County
Santa Ana City
Santa Barbara County
Santa Clara County
Santa Cruz
South East Los Angeles Consortium (SELACO)
Solano County
Sonoma County
Tulare County
Ventura County
Verdugo County